

REMARKS

Claims 1 and 4-21 remain herein.

1. Claims 1, 4, 7-10 and 12-18 were rejected under 35 U.S.C. § 103(a) over Isayev U.S. Patent 5,284,625 and Schembri U.S. 5,403,415. The Office Action admits that Isayev fails to disclose a vibrator or a vibration transmission member having high adhesive properties to a resin material, as recited in applicants' claim 1. The Office Action erroneously alleges that Schembri discloses "fabricating a vibration transmission member... with high adhesive properties to the resin." However, Schembri discloses only an ultrasonic welding horn having raised surfaces to "focus energy at regions needing more energy." (Col. 3, lines 21-22) Schembri discloses that a film may be placed on the horn "which can transmit energy between the horn and the parts being welded." (Col. 3, lines 45-46) Using materials on a horn that can transmit energy to a surface being welded is not the same as a vibration transmission member having high adhesive properties to a resin material, as recited in applicants' claim 1. Adhesion is not the same as an ability to transmit energy. Thus, Isayev and Schembri, combined, fail to disclose every element of applicants' claim 1.

Nor would it have been obvious to one of ordinary skill to modify or combine Isayev and Schembri to provide every element of applicants' claim 1. Schembri discloses ultrasonic welding of thermoplastic parts, in which ultrasonic vibrations are applied to solid-state resins. The horn that applies the vibrations is shaped to enhance energy transfer in certain areas and avoid energy transfer in others. One of ordinary skill would not use a horn such as that in Schembri to apply vibrations to molten resin, as recited in applicants' claim 1. Neither Isayev, Schembri, or any other cited reference discloses any teaching that would have motivated one of

ordinary skill to use a horn with coplanar regions to apply a vibration to molten resin. Nor is there any evidence in any cited reference or anything else in this record that such a horn would improve adhesive properties of the horn to a molten resin.

For the foregoing reasons, Isayev and Schembri are inadequate grounds for rejecting claims 1, 4, 7-10 and 12-18 under 35 U.S.C. § 103(a). Reconsideration and withdrawal of the rejection are respectfully requested.

2. Claims 1, 4, 5, 7, 9, 10, 12 and 15-18 were rejected under 35 U.S.C. § 103(a) over Allan U.S. Patent Application Publication 2006/0165832 and Schembri. The Office Action admits that Allan fails to disclose “the vibrator or the vibration transmission member has high adhesive properties to the resin material,” as recited in applicants’ claim 1. For the reasons stated above, Schembri fails to disclose what Allan lacks.

Nor would it have been obvious to one of ordinary skill to modify or combine Allan and Schembri to provide every element of applicants’ claim 1. As discussed above, Schembri discloses ultrasonic welding of thermoplastic parts, in which ultrasonic vibrations are applied to solid-state resins. The horn that applies the vibrations is shaped to enhance energy transfer in certain areas and avoid energy transfer in others. One of ordinary skill would not use a horn such as that in Schembri to apply vibrations to molten resin, as recited in applicants’ claim 1. Neither Allan, Schembri, nor anything else in this record discloses any teaching that would have motivated one of ordinary skill to use a horn with coplanar regions to apply a vibration to molten resin. Nor is there any evidence in any cited reference or anything else in this record that such a horn would improve adhesive properties of the horn to the molten resin.

For the foregoing reasons, Allan and Schembri are inadequate grounds for rejecting claims 1, 4, 5, 7, 9, 10, 12 and 15-18 under 35 U.S.C. § 103(a). Reconsideration and withdrawal of the rejection are respectfully requested.

3. Claim 6 was rejected under 35 U.S.C. § 103(a) over Allan or Isayev and Schembri. For the reasons stated above, Allan, Isayev, and Schembri fail to render obvious applicants' claim 1, from which claim 6 depends. Withdrawal of the rejection is respectfully requested.

4. Claim 11 is rejected over Allan or Isayev, Schembri and Rice U.S. Patent 5,269,860. As discussed above, Allan, Isayev and Schembri fail to disclose or suggest every element of applicants' claim 1, from which claim 11 depends. Rice fails to disclose what Allan, Isayev and Schembri lack. Rice discloses an apparatus for ultrasonic welding. Rice fails to disclose improving the mechanical properties of a resin material. Rice explains that ultrasonic energy is easily transmitted through amorphous resins (see Rice, column 2, lines 64-67), but there is nothing in Rice suggesting the use of a vibrator or a vibration transmission member having high adhesive properties to a resin material. In Rice, the amorphous resin is bonded to another material, but the vibrator itself is not modified to have high adhesive properties to the resin material.

Nor do any of the cited references disclose anything that would have suggested applicants' claimed invention to one of ordinary skill in the art. There is no disclosure in any of Isayev, Allan, Schembri, Rice, or otherwise in this record, that would have suggested the

desirability of modifying any portions thereof effectively to anticipate or suggest applicants' presently claimed invention. Applicants respectfully request reconsideration and withdrawal of this rejection.

5. Claim 19 was rejected under 35 U.S.C. § 103(a) over Isayev or Allan, Schembri and Hansen U.S. Patent 3,971,315.

As discussed above, none of Isayev, Allan or Schembri discloses all elements of applicants' claim 1, from which claim 19 depends. Furthermore, Isayev, Allan, Schembri and Hansen disclose nothing that would have suggested applicants' claimed invention to one of ordinary skill in the art. There is no disclosure or teaching in any of Isayev, Allan, Schembri, Hansen, or otherwise in this record, that would have suggested the desirability of modifying any portions thereof effectively to anticipate or suggest applicants' presently claimed invention. Applicants respectfully request reconsideration and withdrawal of this rejection.

6. Claim 20 was rejected under 35 U.S.C. § 103(a) over Isayev or Allan, Schembri, and Takubo U.S. Patent 4,863,653. For the reasons stated above, Isayev, Allan, and Schembri fail to disclose every element of applicants' claim 1; from which claim 20 depends. Takubo fails to disclose what the above references lack. Takubo fails to disclose a vibrator or a vibration transmission member having high adhesive properties to a resin material. Nor do any of the above references contain any teaching that would have motivated one of ordinary skill to modify or combine any of Isayev, Allan, Schembri, and/or Takubo, or anything else in this record, to provide a vibrator or vibration transmission member having such high adhesive properties. For

the foregoing reasons, Isayev, Allan, Schembri, and Takubo are inadequate grounds for rejecting claim 20 under 35 U.S.C. § 103(a). Applicants respectfully request reconsideration and withdrawal of the rejection.

7. Claim 21 was rejected under 35 U.S.C. § 103(a) over Isayev or Allan, Schembri, and Rabeneck U.S. Patent 4,289,569. For the reasons stated above, Isayev, Allan, and Schembri fail to disclose every element of applicants' claim 1, from which claim 21 depends. Rabeneck fails to disclose what the above references lack. Rabeneck fails to disclose a vibrator or a vibration transmission member having high adhesive properties to a resin material. Nor do any of the above references or anything else in this record, contain any teaching that would have motivated one of ordinary skill to modify or combine Isayev, Allan, Schembri, and/or Rabeneck, or anything else in this record, to disclose a vibrator or vibration transmission member having such high adhesive properties. For the foregoing reasons, Isayev, Allan, Schembri, and Rabeneck are inadequate grounds for rejecting claim 21 under 35 U.S.C. § 103(a). Applicants respectfully request reconsideration and withdrawal of the rejection.

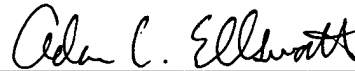
Serial No. 10/559,743  
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Accordingly, this application is now fully in condition for allowance and a notice to that effect is respectfully requested. The PTO is hereby authorized to charge/credit any fee deficiencies or overpayments to Deposit Account No. 19-4293 (Order No. 28955.1062). If further amendments would place this application in even better condition for issue, the Examiner is invited to call applicants' undersigned attorney at the number listed below.

Respectfully submitted,

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